

10 Rec'd & FORWARDED SEP 2004



PCT

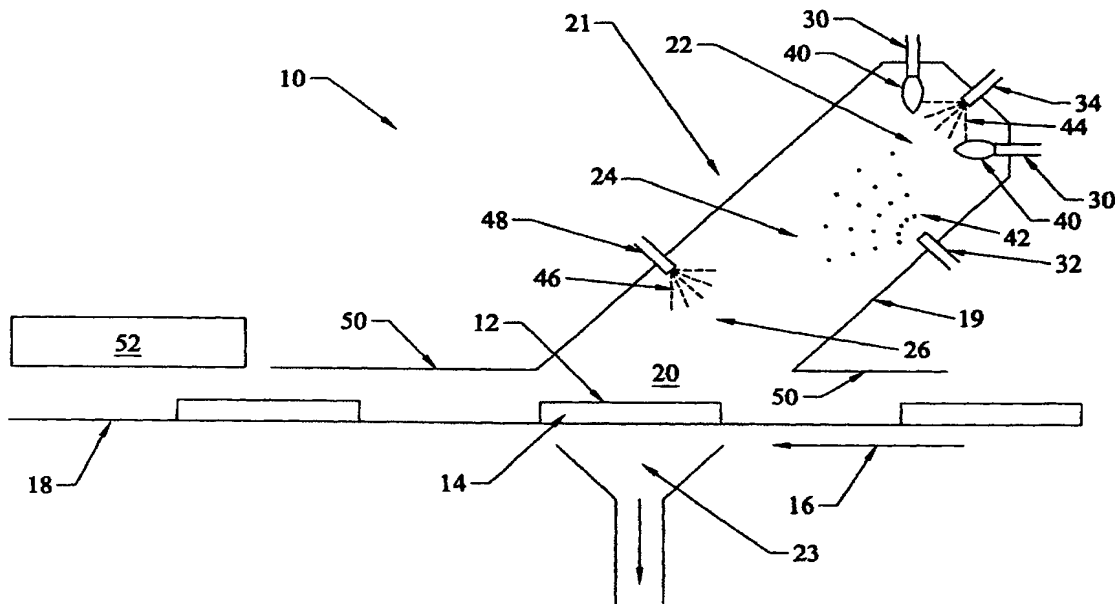
(10) International Publication Number
WO 03/074195 A1

- Rochester Hills, MI 48309 (US); **HUNT, Andrew, T.** [US/US]; 495 Mountain Way, Atlanta, GA 30342-3801 (US). **QUILLIAN, Charles McKendrie, V.** [US/US]; 5224 Cornith Drive, Stone Mountain, GA 30087 (US). **DALZIEL, William J., Jr.** [US/US]; 1945 Turtle Creek Way, Lawrenceville, GA 30043 (US). **WITBROD, Frank, C.** [US/US]; 2850 Brookfield Circle, Cumming, GA 30040 (US). **LEE, Stein, s.** [US/US]; 499 14th Street; Suite #711, Atlanta, GA 30309 (US). **SHARM, William** [US/US]; 3130 Granada Way, Gainesville, GA 30506 (US). **SMALLEY, Jeanne Yadylyne** [US/US]; 6925 Cumberland Circle, Riverdale, GA 30296 (US). **BATICH, Mark** [US/US]; 3271 Fawn Trail, Marietta, GA 30066 (US). **HOOS, William** [US/US]; 351 West 10th Street, Atlanta, GA 30318 (US).

- (74) Agent:** MURATORI, Alfred, H.; MicroCoating Technologies Inc., 5315 Peachtree Industrial Blvd., Atlanta, GA 30341 (US).

- (81) Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

[Continued on next page]



(57) Abstract: To form an ionomer-based catalytic layer on a porous substrate, a heat source (40) is used to dry an ionomer-containing spray (46) so that it does not substantially liquid flow on the substrate (14). The ionomer spray (46) may contain a catalyst. A spray (46) of mixed material for forming the catalytic layer is entrained by a gas stream and is heated and directed to a substrate surface (12). For hydrogen/oxygen fuel cells, catalytic material is incorporated into the proton-conducting membrane (56) to convert diffusing oxygen and hydrogen to water to reduce potential loss at the electrodes and maintain hydration of the proton-conducting membrane (56).

WO 03/074195 A1



GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.